

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 28 (Norbeck Road) and Avery Road in Montgomery County. A pedestrian crossing signal shall be installed across the west leg of MD28 and across Avery Road. MD 28 (Norbeck Road) is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

- The intersection shall continue to operate in a NEMA three-phase, semi-actuated mode, with the MD 28 (Norbeck Road) approaches running concurrently. A pedestrian phase with pushbutton actuation shall be installed across the west leg of MD 28 (Norbeck Road). The proposed pedestrian phase crossing Avery Road shall be on recall. For side sampling stations shall remain in use on both legs of MD 28 (Norbeck Road) at this intersection. The Avery Road approach shall run independently.
- A full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall remain in use at this intersection.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

EQUIPMENT LIST

A.EQUIPMENT TO BE SUPPLIED BY S.H.A.

ITEM NO.	DESCRIPTION	QUANTITY
9089	Sheet aluminum signs to consist of:	45 SF
	M6-2 "arrow (symbolic)" right diagonal sign, (15" x 21") ground mounted.	2 EA
	M6-2 "arrow (symbolic)" left diagonal sign, (15" x 21") ground mounted.	1 EA
	M6-2 "arrow (symbolic)" left diagonal sign, (15" x 21") pole mounted.	1 EA
	S1-1 "SCHOOL CROSSING" sign, (36" x 36") ground mounted.	2 EA
	S1-1 "SCHOOL CROSSING" sign, (36" x 36") pole mounted.	2 EA

B.EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
2001	Class 2 Excavation. (macadam sidewalk)	2 C.Y.
2002	Test Pit Excavation	3 C.Y.
5004	12" white heat applied permanent preformed thermoplastic pavement marking.	660 L.F.
6004	4" concrete sidewalk.	100 S.F.
8000	To be negotiated - Furnish and install 9"x12" Sheet Aluminum Pedestrian Education Sign (R10-3C Blankout)	1 EA
8010	Furnish and install 12" pedestrian signal head section	8 EA
8030	Furnish and install breakaway pedestal pole (10').	3 EA
8032	Pedestrian pushbutton and R10-3C sign. (Note: Sign to read "PUSHBUTTON TO CROSS NORBECK ROAD".)	2 EA
8051	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	100 L.F.
8059	Furnish and install concrete for signal foundation.	3 C.Y.
8061	Furnish and install wood sign supports 4 inch x 6 inch	40 L.F.
8062	Furnish and install No. 6 AWG stranded bare copper ground wire.	445 L.F.
8066	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored.	75 L.F.
8074	Furnish and install electrical handhole.	3 EA

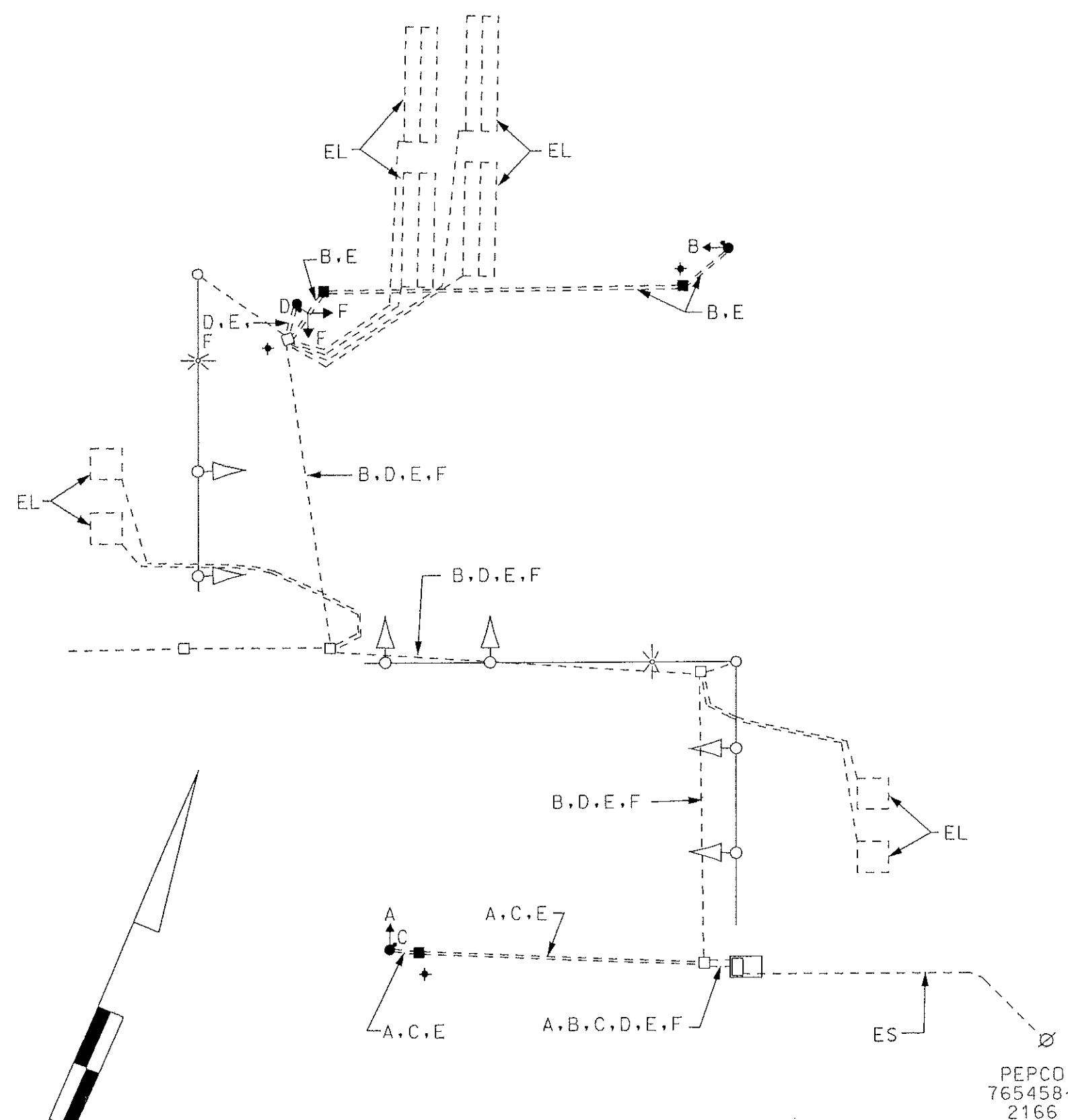
B.EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR (CONT.)

ITEM NO.	DESCRIPTION	QUANTITY
8076	Install Ground Mounted Sign	10.38 S.F.
8077	Install Overhead Sign	10.38 S.F.
8082	Furnish and install ground rod - 3/4" x 10'.	3 EA
8084	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	360 L.F.
8085	Furnish and install electrical cable - 3 conductor (No. 14 AWG).	770 L.F.

C.EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

THERE ARE NO SIGNAL MATERIALS TO BE REMOVED IN THIS PROJECT.

WIRING DIAGRAM



WIRING KEY

- A - 3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- B - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- C - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- D - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- E - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- EL - EXISTING LOOP WIRE (NO. 14 A.W.G.)
- ES - EXISTING UNDERGROUND ELECTRICAL SERVICE TO BE MAINTAINED BY PEPCO
- GR - GROUND ROD

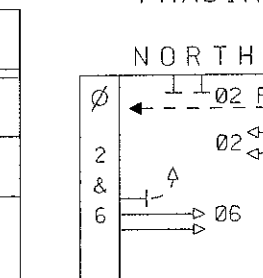
SEQUENCE OF OPERATION SHEET
TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

INTERSECTION: MD 28 (NORBECK ROAD AND AVERY ROAD)

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	1,2,3,4,5,6				7,8
TOTAL:	6				2
LEGEND	(R)	(Y)	(G)	(R)	(Y)
OPTICALLY LIMITED	(Y)	(Y)	(Y)	(Y)	(Y)
R RED	(Y)	(Y)	(Y)	(Y)	(Y)
Y YELLOW	(Y)	(Y)	(Y)	(Y)	(Y)
G GREEN	(Y)	(Y)	(Y)	(Y)	(Y)
ARROW	(Y)	(Y)	(Y)	(Y)	(Y)
FLASHING	(Y)	(Y)	(Y)	(Y)	(Y)

NO. _____

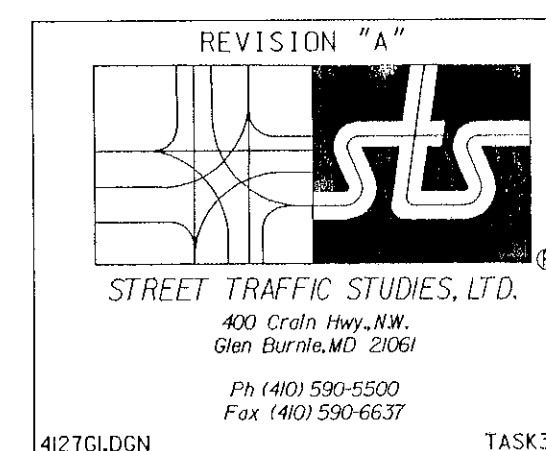
PHASING



SIGNAL NO.	INTERVAL									FLASH
	1	2	3	4	5	6	7	8	9	
1	G	G	Y	R	R	R	R	R	R	FL/Y
2	G	G	Y	R	R	R	R	R	R	FL/Y
3	G	G	Y	R	R	R	R	R	R	FL/Y
4	G	G	Y	R	R	R	R	R	R	FL/Y
5	R	R	R	R	G	G	G	Y	R	FL/R
6	R	R	R	R	G	G	G	Y	R	FL/R
7	WK	FL	DW	DW	DW	DW	DW	DW	DW	DARK
8	WK	FL	DW	DW	DW	DW	DW	DW	DW	DARK
9	DW	DW	DW	DW	WK	FL	DW	DW	DW	DARK
10	DW	DW	DW	DW	WK	FL	DW	DW	DW	DARK
PHASE	2 & 6	ALL RED	4	ALL RED	4	ALL RED	4	ALL RED	4	

NOTES:

SUBMITTED:	CHECKED:	APPROVED:
IN SERVICE BY:	DATE:	TIME:



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 28 (NORBECK RD) AND AVERY RD

DRAWN BY: ROB CICCHINI	F.A.P. NO. XX1005385	TS NO. TS-4036A	SHEET NO. 2 OF 2
CHECKED BY: R ZACHERL	S.H.A. NO. MONTGOMERY	T.I.M.S. NO. E942	
SCALE: NA	COUNTY: MONTGOMERY	LOG MILE: 15002824.31	
DATE: 3/14/2002			